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B5M1/0710

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**NOTICE OF ALLOWANCE
AND ISSUE FEE DUE**

☐ Note attached communication from the Examiner

☐ This notice is issued in view of applicant's communication filed _____

SERIES CODE/SERIAL NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
07/911,405	07/10/92	121	NGUYEN, K	2506 07/10/95
First Named Applicant	FENN,	JOHN B.		

TITLE OF
INVENTION

A COMPOSITION OF MATTER OF A POPULATION OF MULTIPLY CHARGED IONS
DERIVED FROM POLYATOMIC PARENT MOLECULAR SPECIES
(AS AMENDED)

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
2 840.004	250-292.000	N26	UTILITY	YES	\$605.00	10/10/95

**THE APPLICATION IDENTIFIES ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT.
PROSECUTION ON THE MERITS IS CLOSED.**

**THE ISSUE FEE MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS
APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.**

HOW TO RESPOND TO THIS NOTICE:

- I. Review the SMALL ENTITY Status shown above.
If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:
- A. If the status is changed, pay twice the amount of the FEE DUE shown above and notify the patent and Trademark Office of the change in status, or
 - B. If the Status is the same, pay the FEE DUE shown above.

If the SMALL ENTITY is shown as NO:

- A. Pay FEE DUE shown above, or
- B. File verified statement of Small Entity Status before, or with, pay of 1/2 the FEE DUE shown above.

- II. Part B of this notice should be completed and returned to the Patent and Trademark Office (PTO) with your ISSUE FEE. Even if the ISSUE FEE has already been paid by charge to deposit account, Part B should be completed and returned. If you are charging the ISSUE FEE to your deposit account, Part C of this notice should also be completed and returned.
- III. All communications regarding this application must give series code (or filing date), serial number and batch number. Please direct all communication prior to issuance to Box ISSUE FEE unless advised to contrary.

IMPORTANT REMINDER: Patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.



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SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
07/911,405	07/10/92	FENN	841,110

95M1/0710

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EXAMINER

ART UNIT	PAPER NUMBER
2504	18

07/10/95

DATE MAILED:

NOTICE OF ALLOWABILITY

PART I

- ☒ This communication is responsive to The Response filed 03-08-1995
- ☒ All the claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice Of Allowance And Issue Fee Due or other appropriate communication will be sent in due course.
- ☒ The allowed claims are 67-187
- ☐ The drawings filed on _____ are acceptable.
- ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received, ☐ not been received, ☐ been filed in parent application Serial No. _____, filed on _____.
- ☒ Note the attached Examiner's Amendment.
- ☒ Note the attached Examiner Interview Summary Record, PTOL-413.
- ☐ Note the attached Examiner's Statement of Reasons for Allowance.
- ☐ Note the attached NOTICE OF REFERENCES CITED, PTO-892.
- ☐ Note the attached INFORMATION DISCLOSURE CITATION, PTO-1449.

PART II

A SHORTENED STATUTORY PERIOD FOR RESPONSE to comply with the requirements noted below is set to EXPIRE THREE MONTHS FROM THE "DATE MAILED" indicated on this form. Failure to timely comply will result in the ABANDONMENT of this application. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

- ☐ Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION, PTO-152, which discloses that the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.
- ☒ APPLICANT MUST MAKE THE DRAWING CHANGES INDICATED BELOW IN THE MANNER SET FORTH ON THE REVERSE SIDE OF THIS PAPER.
 - ☒ Drawing informalities are indicated on the NOTICE RE PATENT DRAWINGS, PTO-948, attached hereto or to Paper No. 6. CORRECTION IS REQUIRED.
 - ☐ The proposed drawing correction filed on _____ has been approved by the examiner. CORRECTION IS REQUIRED.
 - ☒ Approved drawing corrections are described by the examiner in the attached EXAMINER'S AMENDMENT. CORRECTION IS REQUIRED.
 - ☒ Formal drawings are now REQUIRED.

Any response to this letter should include in the upper right hand corner, the following information from the NOTICE OF ALLOWANCE AND ISSUE FEE DUE: ISSUE BATCH NUMBER, DATE OF THE NOTICE OF ALLOWANCE, AND SERIAL NUMBER.

Attachments:

- ☒ Examiner's Amendment
- ☒ Examiner Interview Summary Record, PTOL-413
- ☐ Reasons for Allowance
- ☐ Notice of References Cited, PTO-892
- ☐ Information Disclosure Citation, PTO-1449

- ☐ Notice of Informal Application, PTO-152
- ☐ Notice re Patent Drawings, PTO-948
- ☐ Listing of Bonded Draftsmen

☒ Other See the attached copies of the drawings.

Jack D. Berman

An Examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 C.F.R. § 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the Issue Fee.

In the claims

Claim[✓]67, line[✓]6, "sub-population, for each" change to -- sub-populations having a --.

Claim[✓]70, line[✓]1, "populations" change to -- population --.

Claim[✓]82, line[✓]5, "and for each of said populations, there being one of said" change to -- each of said --.

line[✓]6, "for each possible" change to -- having a --.

Claim[✓]83, lines[✓]1-2, "said plurality of sub-populations for" has been deleted.

line[✓]2, "sub-populations for each" change to -- sub-populations having a --.

Claim[✓]84, lines[✓]1-2, "said plurality of sub-populations for" has been deleted.

line[✓]2, "sub-populations for each" change to -- sub-populations having a --.

Claim[✓]87, line[✓]1, "discrete" change to -- distinct --.

Claim[✓]90, line[✓]5, "sub-population within said plurality" change to -- of said sub-populations --.

line[✓]7, "within said plurality" has been deleted.

Claim[✓]93, line[✓]1, "discrete" change to -- distinct --.

Claim[✓]97, line[✓]5, "and for each of said populations, there being one of said" change to -- each of said --.

line[✓]6, "for each possible" change to -- having a --.

Claim[✓]98, lines[✓]1-2, "said plurality of sub-populations, for each of said populations," change to -- each of said populations --.

line[✓]2, "sub-populations for each" change to -- sub-populations having a --.

Claim[✓]99, lines[✓]1-2, "said plurality of sub-populations, for each of said populations," change to -- each of said populations --.

line[✓]2, "sub-populations for each" change to -- sub-populations having a --.

Claim[✓]100, line[✓]1, "of a given" has been deleted.

Claim[✓]109, line[✓]5, "and for each of said populations there being a one of said" change to -- each of said --.

line[✓]6, "for each of every possible" change to -- having a --.

line[✓]10, "from the results of said mass analysis" has been deleted.

line[✓]11, after "sub-populations" insert with -- from the results of said mass analysis --.

Claim[✓]110, lines[✓]1-2, "said plurality of sub-populations for" has been deleted.

line[✓]3, "for each" change to -- having a --.

Claim[✓]111, lines[✓]1-2, "said plurality of sub-populations for" has been deleted.

line[✓]3, "for each" change to -- having a --.

Claim[✓]112, line[✓]1, "of a given" has been deleted.

Claim[✓]114, line[✓]1, "discrete" change to -- distinct.

Claim[✓]117, line[✓]5, "within said plurality" has been deleted.

line[✓]7, "within said plurality" has been deleted.

line[✓]10, "from the results of said mass analysis" has been deleted.

line[✓]11, after "sub-populations" insert with -- from the results of said mass analysis --.

Claim[✓]120, line[✓]1, "discrete" change to -- distinct --.

Claim[✓]123, lines[✓]4-5, "and for each of said populations, there being one of said sub-populations for each possible" change to -- each of said sub-populations having a --.

line[✓]7, "mass" has been deleted.

line[✓]16, "a portion of" has been deleted and after "into" insert with -- a --.

line[✓]18, "from the results of said mass analysis" has been deleted.

line[✓]20, after "populations" insert with -- from the results of said mass analysis --.

Claim[✓]124, lines[✓]1-2, "said plurality of sub-populations, for each of said populations," change to -- each of said populations --.

line[✓]3, "for each" change to -- having a --.

Claim[✓]125, lines[✓]1-2, "said plurality of sub-populations, for each of said populations," change to -- each of said populations --.

line³, "for each" change to -- having a --.

Claim¹²⁶, line¹, "of a given" has been deleted.

Claim¹³⁴, lines⁶⁻⁷, "and for each of said populations, there being one of said sub-populations for each possible" change to -- each of said sub-populations having a --.

line¹⁶, "a portion of" has been deleted and after "into" insert with -- a --.

line¹⁸, "from the results of said mass analysis" has been deleted.

line²⁰, after "populations" insert with -- from the results of said mass analysis --.

Claim¹³⁵, lines¹⁻², "said plurality of sub-populations, for each of said populations," change to -- each of said populations --.

line³, "for every" change to -- having a --.

Claim¹³⁶, lines¹⁻², "said plurality of sub-populations, for each of said populations," change to -- each of said populations --.

line³, "for each" change to -- having a --.

Claim¹³⁷, line¹, "of a given" has been deleted.

Claim¹⁴⁰, line⁴, "for each of" change to -- of multiply charged ions derived from --

line⁵, "of multiply charged ions" has been deleted.

line⁶, after "from" insert with -- each of said distinct polyatomic parent molecular species of --.

line[✓]7, "for each distinct population" and "discrete" have been deleted.

line[✓]8, after "said" insert with -- sub-populations of --.

line[✓]9, "discrete integral" has been deleted.

line[✓]10, "for" change to -- of --.

Claim[✓]146, line[✓]3, "characterizable" change to -- characterized --.

line[✓]4, "for" change to -- of --.

line[✓]8, "(or removed from as in the case with negative ions)" has been deleted.

line[✓]10, "(or removed from)" has been deleted.

line[✓]11, "population" change to -- populations --.

line[✓]14, "for each" change to -- having said -- and after "of" insert with -- said --.

Claim[✓]147, line[✓]1, "there is at least one" change to -- at least one of said --.

line[✓]2, after "sub-populations" insert with -- is -- and "for each" change to -- having said --.

Claim[✓]148, line[✓]1, "there is at least one" change to -- at least one of said --.

line[✓]2, after "sub-populations" insert with -- is -- and "for each" change to -- having said --.

Claim[✓]150, line[✓]1, "discrete" change to -- distinct --.

Claim[✓]152, line[✓]5, "a determination can be made of" change to -- said peaks
determine --.

Claim[✓]155, line[✓]4, "for" change to -- of said --.
line[✓]8, "(or removed from as in the case with negative ions)" has been
deleted.

line[✓]10, "(or removed from)" has been deleted.

line[✓]11, "population" change to -- populations --.

line[✓]15, "for" change to -- of said --.

Claim[✓]156, line[✓]1, "each of" has been deleted.

line[✓]3, "for" change to -- of --.

Claim[✓]161, line[✓]4, "for" change to -- of --.

line[✓]8, "(or removed from as in the case with negative ions)" has been
deleted.

line[✓]10, "(or removed from)" has been deleted.

line[✓]11, "population" change to -- populations --.

line[✓]15, "for each integral value of" change to -- having said integral
value of said --.

Claim[✓]162, line[✓]1, "there is" has been deleted.

line[✓]2, after "sub-populations" insert with -- is -- and "for each" change to
-- having said --.

Claim[✓]163, line[✓]1, "there is" has been deleted.
line[✓]2, after "sub-populations" insert with -- is -- and "for each" change to
-- having said --.

Claim[✓]166, line[✓]2, "for" change to -- of --.

Claim[✓]167, line[✓]4, "for" change to -- of --.
line[✓]8, "(or removed from as in the case with negative ions)" has been
deleted.

line[✓]10, "(or removed from)" has been deleted.
line[✓]11, "population" change to -- populations --.
line[✓]14, "for each integral value of" change to -- having said integral
value of said --.

lines[✓]19-20, "a determination can be made of" change to -- said peaks
determine --.

Claim[✓]168, line[✓]1, "there is" has been deleted.
line[✓]2, after "sub-populations" insert with -- is -- and "for each" change to
-- having said --.

Claim[✓]169, line[✓]1, "there is" has been deleted.
line[✓]2, after "sub-populations" insert with -- is -- and "for each" change to
-- having said --.

Claim[✓]173, line[✓]2, "for" change to -- of --.

Claim 174, line 2, "for" change to -- of --.

Claim 175, line 4, "for" change to -- of --.

lines 7-8, "(or removed from as in the case with negative ions)" has been deleted.

line 10, "(or removed from)" has been deleted.

line 11, "population" change to -- populations --.

line 14, "for" change to -- of said --.

line 18, "the same" has been deleted.

line 20, "mass" has been deleted.

line 27, "a portion of" has been deleted and after "into" insert with -- a --.

Claim 176, line 1, "each of at least one" change to -- at least one of said --.

line 2, after "value of" insert with -- said --.

line 3, "for" change to -- of said --.

Claim 177, line 2, "for" change to -- of --.

Claim 178, line 2, "for" change to -- of --.

Claim 179, line 4, "(amu)" has been deleted.

lines 11-12, "from the results of said mass analysis" has been deleted.

line 13, after "sub-populations" insert with -- from the results of said mass analysis --.

Claim 180, line 1, "each of" has been deleted.

line[✓]2, after "values of" insert with -- said --.

line[✓]3, "for" change to -- of said --.

Claim[✓]181, line[✓]1, "single" change to -- distinct --.

Claim[✓]182, line[✓]1, "single" change to -- distinct --.

Claim[✓]184, line[✓]4, "(amu)" has been deleted.

lines[✓]6-7, "and for each of said populations, there being one of said sub-populations for each possible" change to -- each of said sub-populations having a --.

line[✓]16, "a portion of" has been deleted and after "into" insert with -- a --.

Claim[✓]185, lines[✓]1-2, "said plurality of sub-populations, for each of said populations, is comprised of one of said sub-populations for each of every" change to -- each of said populations is comprised of one of said sub-populations having said --.

Claim[✓]186, lines[✓]1-2, "said plurality of sub-populations, for each of said populations, is comprised of one of said sub-populations for each of" change to -- each of said populations is comprised of one of said sub-populations having said --.

Claim[✓]187, line[✓]1, "of a given" has been deleted.

In the drawings

See the attached copies of the drawings with corrections marked in red.

Authorization for this Examiner's Amendment was given in a telephone interview with John B. Fenn (804-358-6921) on 07-05-1995.

The following is an Examiner's Statement of Reasons for Allowance:

Serial Number: 07/911405
Attorney's Docket No. 840.004

Art Unit: 2506
Paper No. 18

The prior art fails to disclose a composition of matter comprising a plurality of sub-populations having a minimum charged state number not less than three as recited in claims 67, 75, 82, 90, 97, 109, 117, 123, 134, 140, 146, 155, 161, 167, 175, 179, or 184.

Any comments considered necessary by applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably **accompany** the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

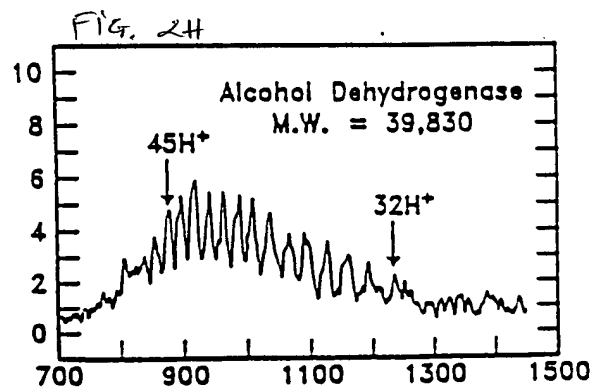
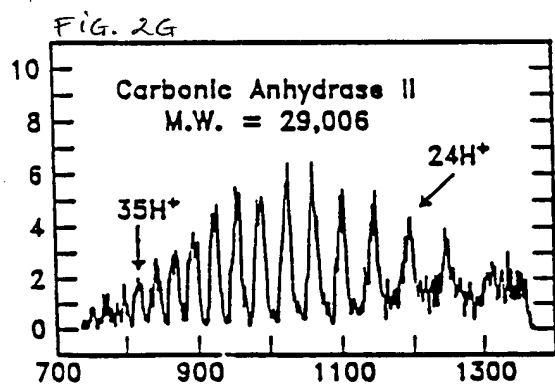
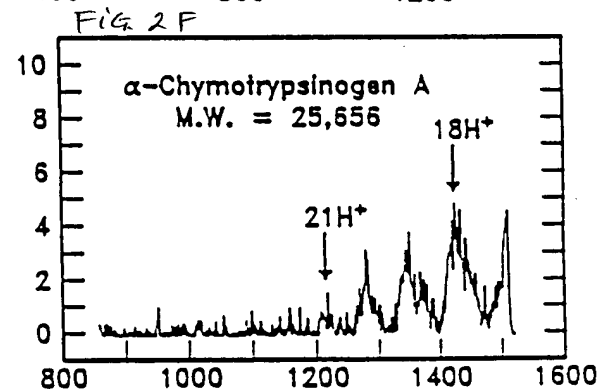
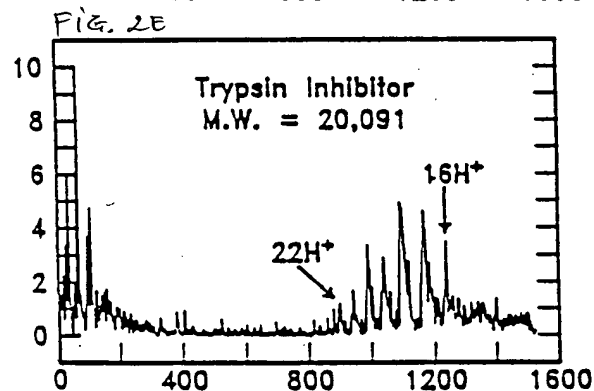
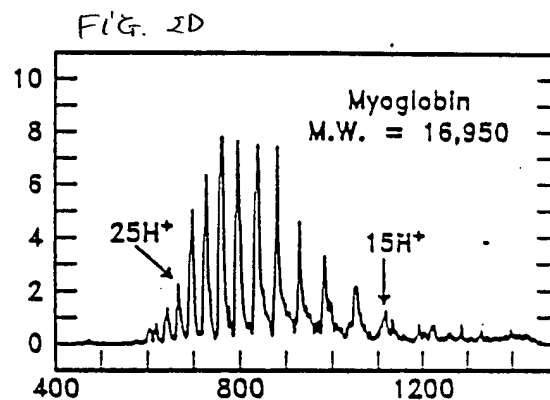
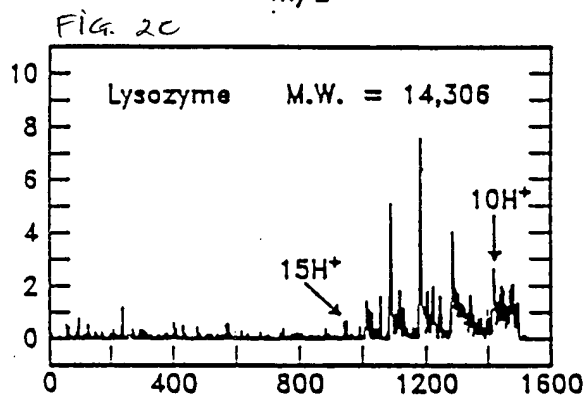
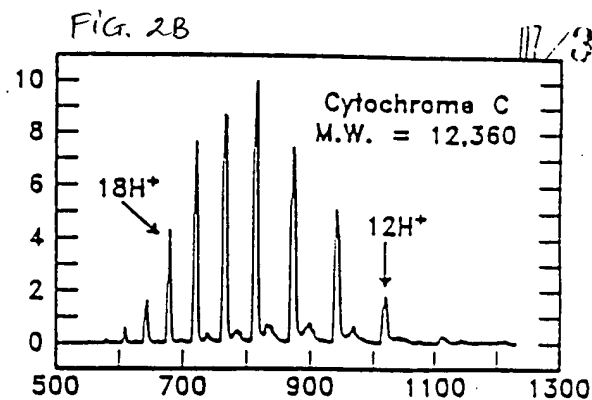
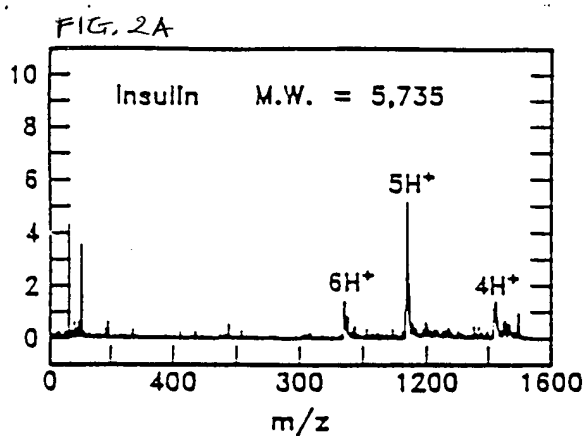
Any inquiry concerning this communication should be directed to Kiet T. Nguyen at telephone number (703) 308-4855.

KN

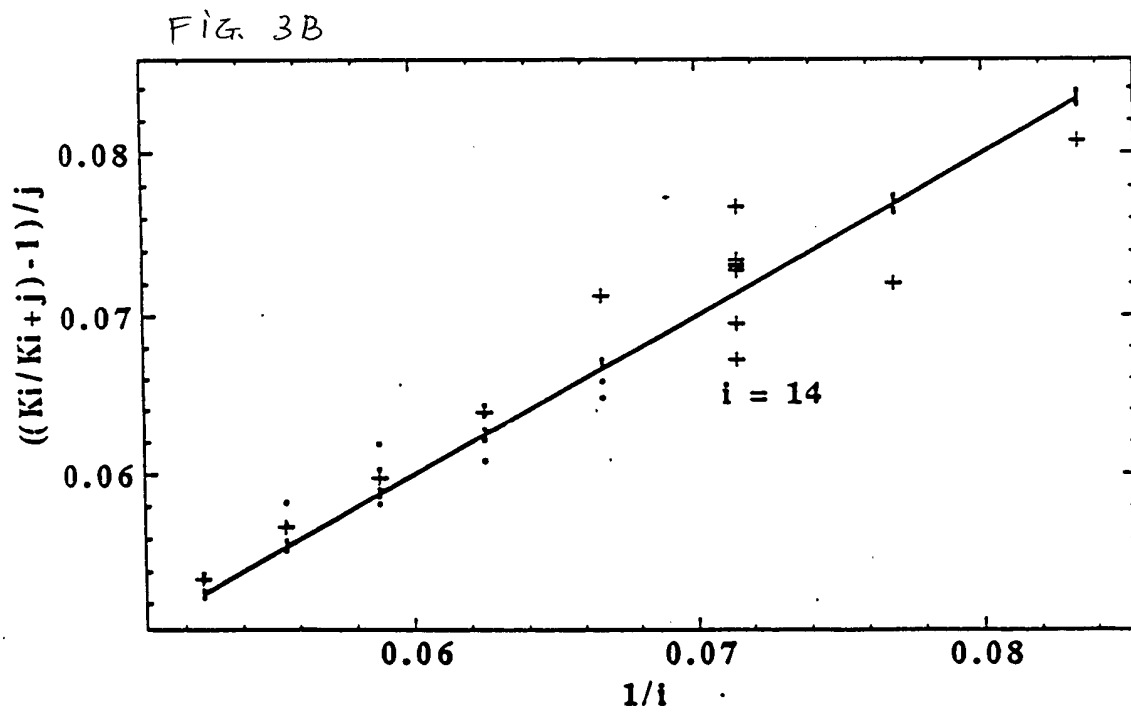
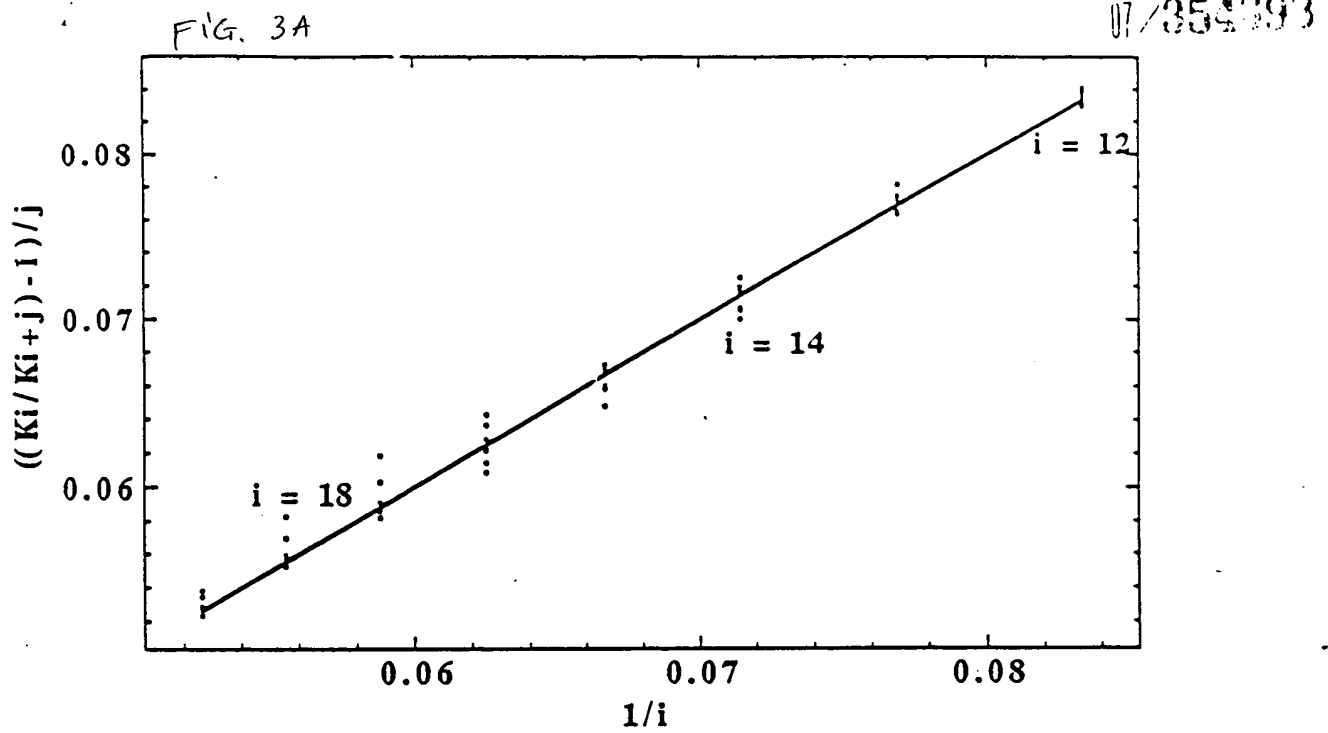
KN
July 6, 1995

Jack L. Berman
JACK L. BERMAN
PRIMARY EXAMINER
ART UNIT 2506

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07/354993

FIG. 5A

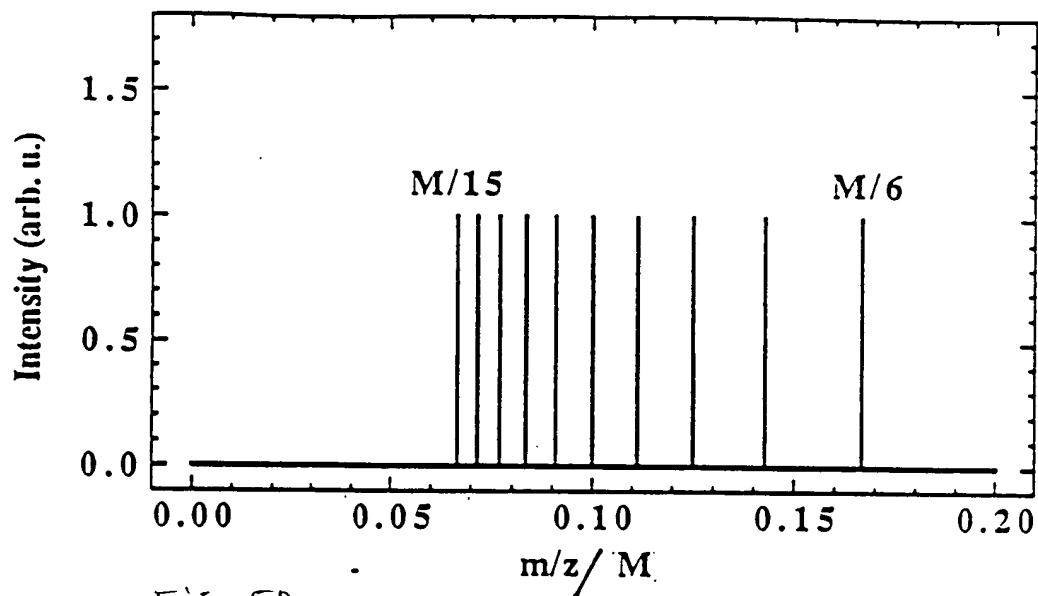
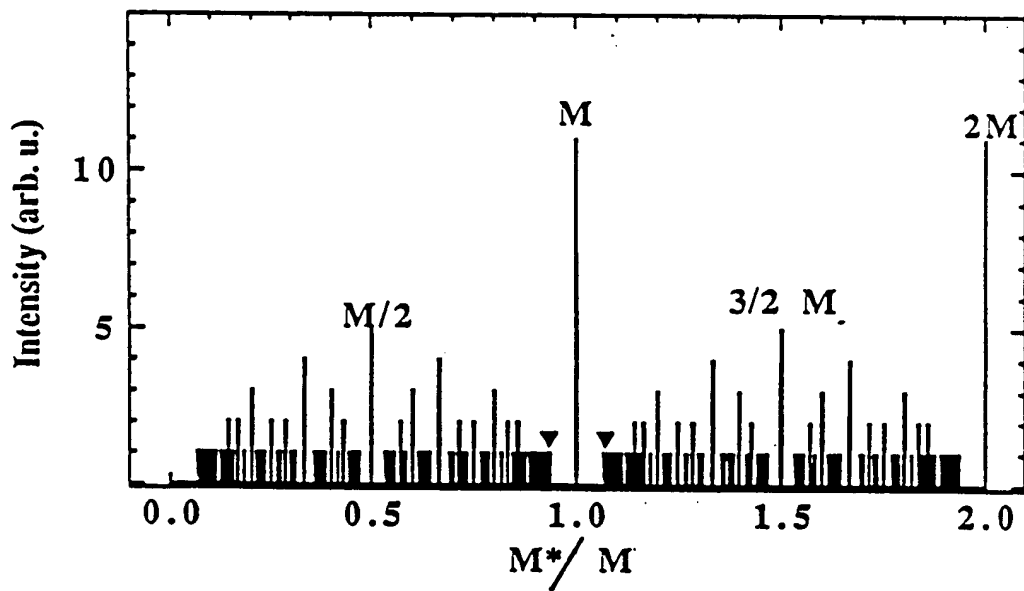


FIG. 5B



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FIG. 6A

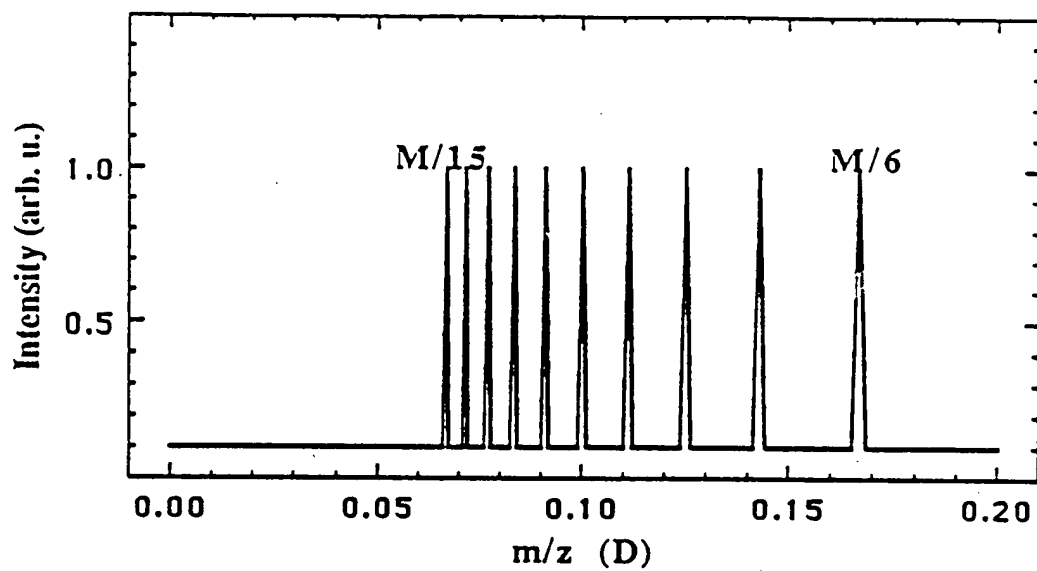
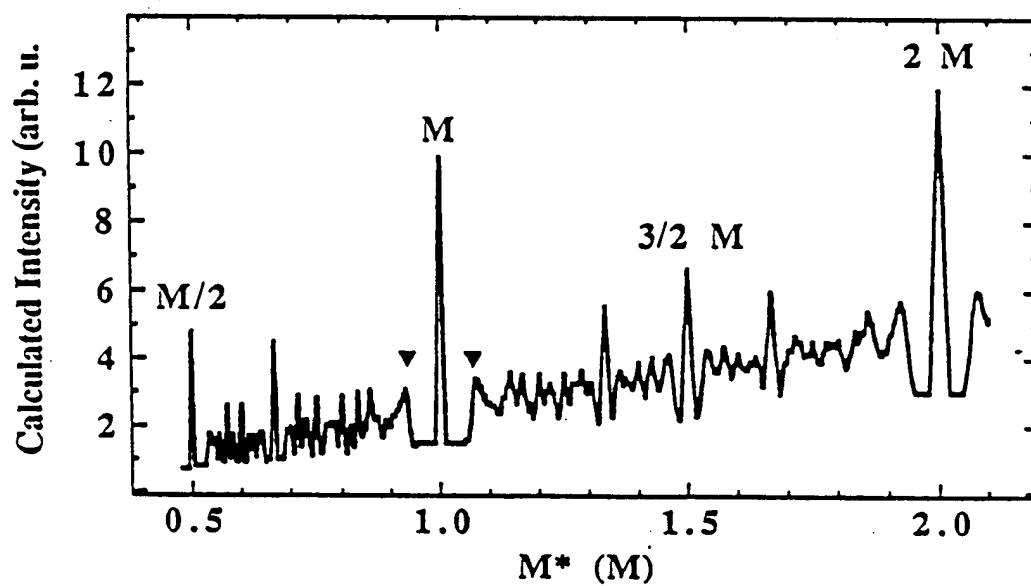
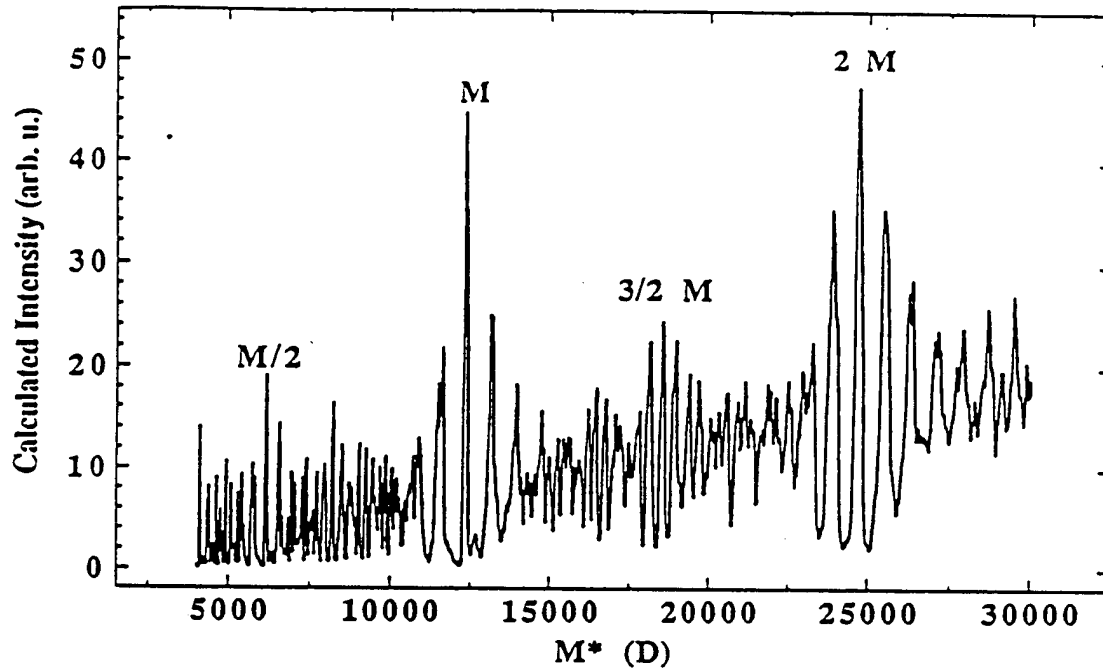


FIG. 6B



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FIG. 7A



07/05/93

FIG. 7B

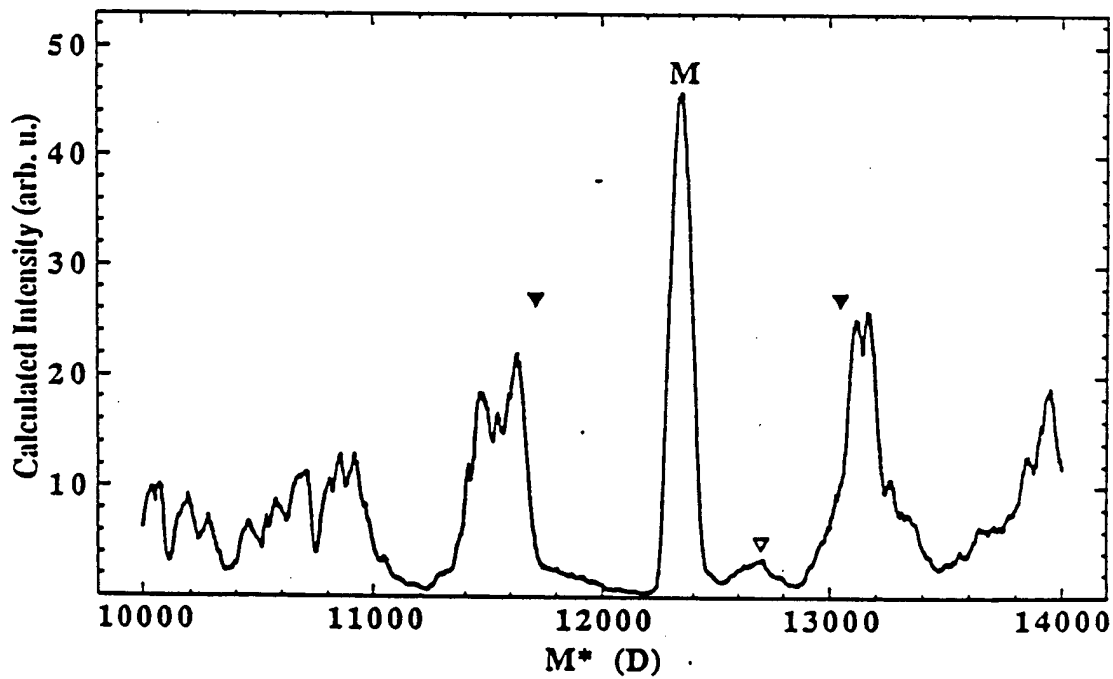
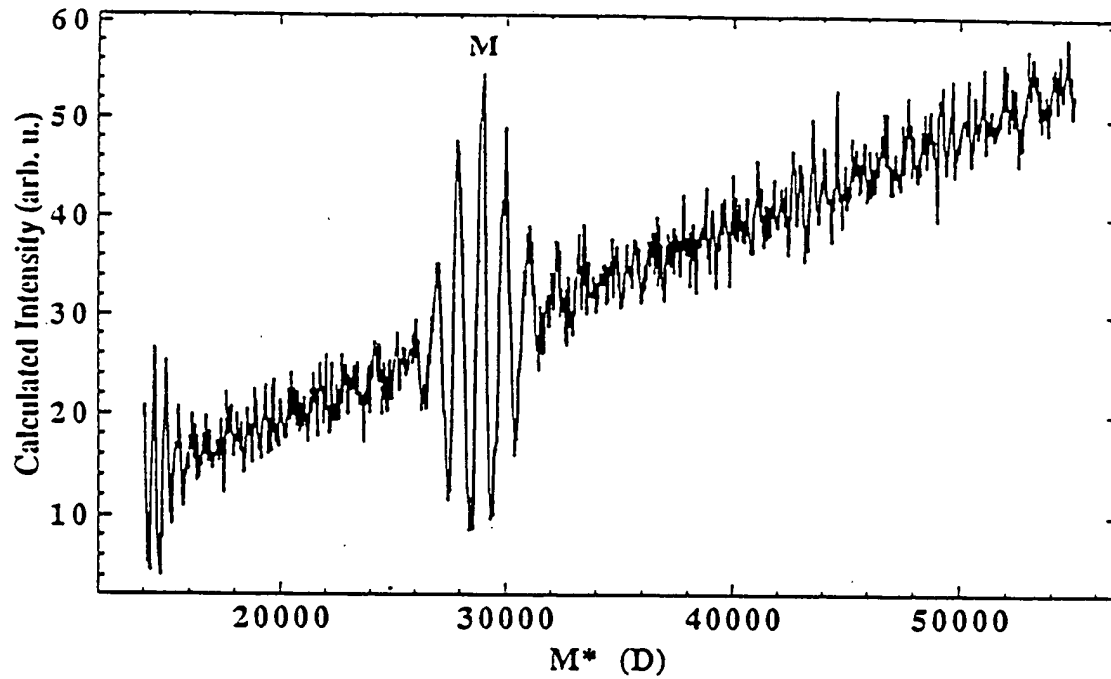


Figure 7

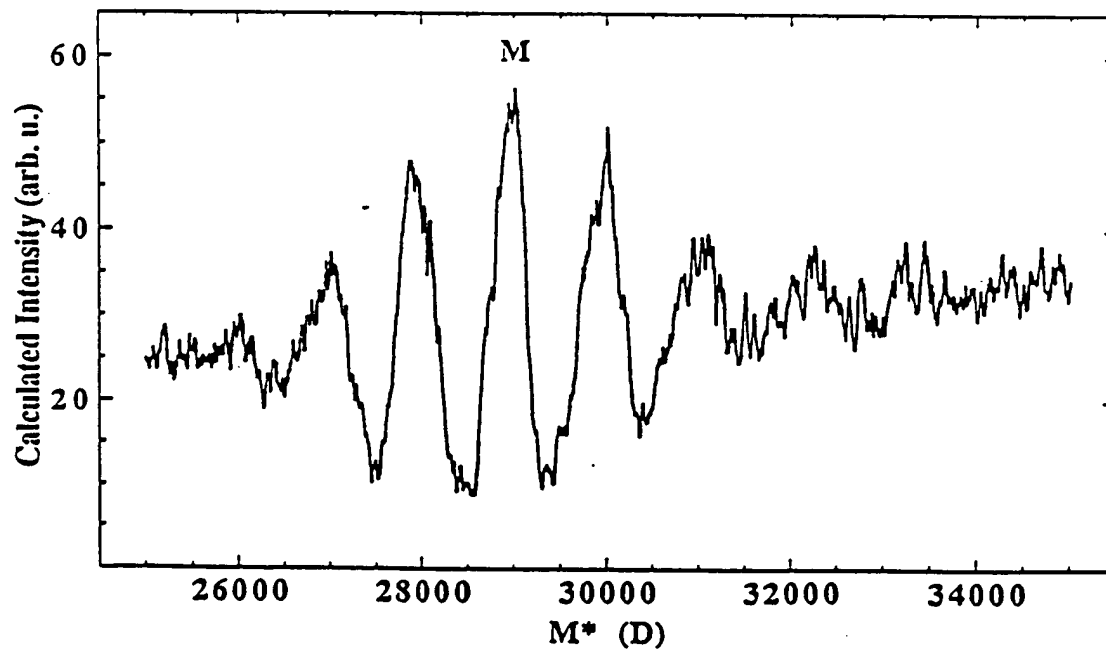
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FIG. 8A



07/354993

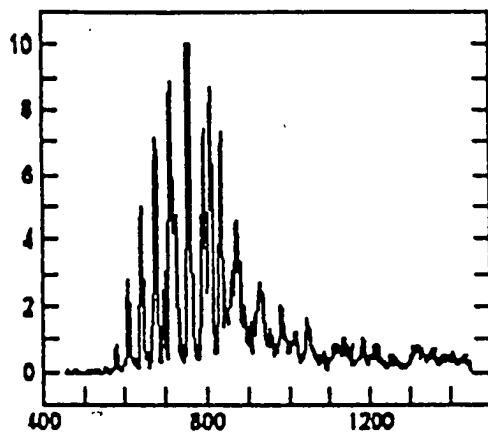
FIG. 8B



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07/354393

FIG. 9B



CYTOCHROME C + MYOGLOBIN

07/354393

0.5 mg/ml each

In 1:1 MeOH-ACN, H₂O 100 ppm TFA8 μ l/min 30 sec single scan

FIG. 9A

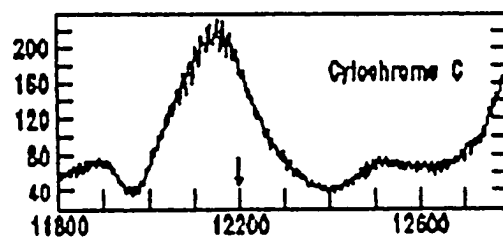
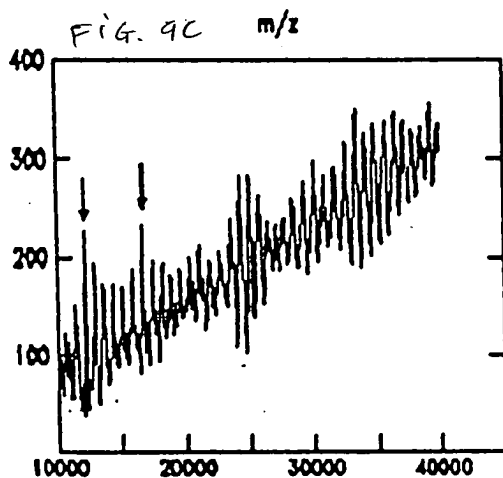


FIG. 9D

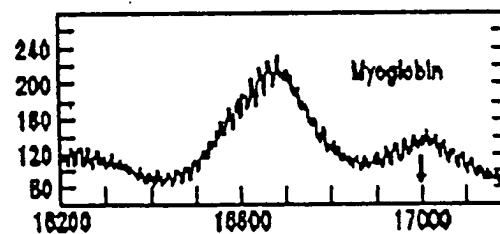


FIG. 9E